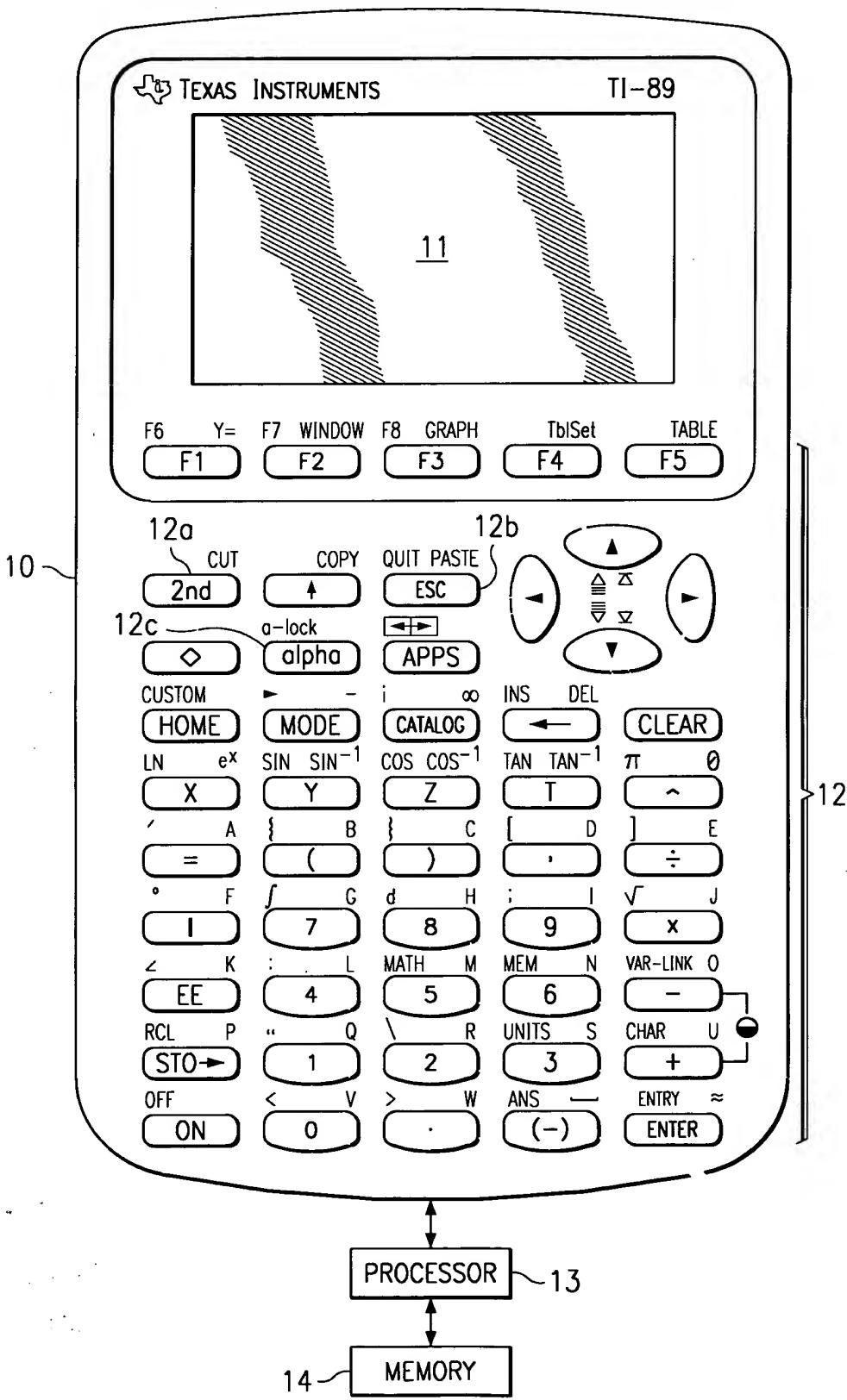




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*FIG. 1
(PRIOR ART)*





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F1▼ Prob Set	F2▼ Prob	F3 <input checked="" type="checkbox"/> a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools
P1: Solve for x						
$x^2 - 3 \cdot x = 4$						
102	104	106	108	100	102	104
110	MAIN	RAD AUTO	FUNC	1/1	110	112

FIG. 2a

SELECT TRANSFORMATION

$x^2 - 3 \cdot x = 4$

1:add ? to each side
2:multiply each side by ?
3:switch sides
4:factor left-hand side
5:complete the square
6:enter subexpr selection

TYPE OR USE ← → ↑ ↓ + [ENTER] OR [ESC]

FIG. 2b

F1▼ Prob Set	F2▼ Prob	F3 <input checked="" type="checkbox"/> a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools
P1: Solve for x						
add ? to each side						
$x^2 - 3 \cdot x = 4$						
? = <input type="text" value="-4"/>						
Enter=OK				ESC=CANCEL		
MAIN	RAD AUTO	FUNC	1/1	MAIN	RAD AUTO	FUNC

FIG. 2c



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F1▼ Prob Set	F2▼ Prob	F3 [a]+b	F4 Trans	F5	F6▼ ?	F7▼ Tools	
P1: Solve for x							
$x^2 - 3 \cdot x = 4$							
► add -4 to each side							
Press <ENTER>							
MAIN	RAD AUTO	FUNC			PAUSE		

FIG. 2d

F1▼ Prob Set	F2▼ Prob	F3 [a]+b	F4 Trans	F5	F6▼ ?	F7▼ Tools	
P1: Solve for x							
$x^2 - 3 \cdot x = 4$							
► add -4 to each side							
$x^2 - 3 \cdot x + -4 = 4 + -4$							
MAIN	RAD AUTO	FUNC			1/1		

FIG. 2e

F1▼ Prob Set	F2▼ Prob	F3 [a]+b	F4 Trans	F5	F6▼ ?	F7▼ Tools	
P1: Solve for x							
$x^2 - 3 \cdot x = 4$							
► add -4 to each side							
$x^2 - 3 \cdot x + -4 = 4 + -4$							
► simplify							
Press <ENTER>							
MAIN	RAD AUTO	FUNC			PAUSE		

FIG. 2f



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F1▼ Prob Set	F2▼ Prob	F3 <input checked="" type="checkbox"/> a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools	
P1: Solve for x							
$x^2 - 3 \cdot x = 4$							
► add -4 to each side							
$x^2 - 3 \cdot x + -4 = 4 + -4$							
► simplify							
$x^2 - 3 \cdot x - 4 = 0$							
MAIN	RAD AUTO	FUNC			1/1		

FIG. 2g

SELECT TRANSFORMATION							
$x^2 - 3 \cdot x - 4 = 0$							
1:add ? to each side 2:multiply each side by ? 3:switch sides 4:factor left-hand side 5:quadratic formula 6:enter subexpr selection							
MAIN	RAD AUTO	FUNC			1/1		

FIG. 2h

F1▼ Prob Set	F2▼ Prob	F3 <input checked="" type="checkbox"/> a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools	
P1: Solve for x							
$x^2 - 3 \cdot x + -4 = 4 + -4$							
► simplify							
$x^2 - 3 \cdot x - 4 = 0$							
► factor left-hand side							
$(x-4) \cdot (x+1) = 0$							
MAIN	RAD AUTO	FUNC			1/1		

FIG. 2i



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SELECT TRANSFORMATION	
$(x-4) \cdot (x+1)=0$	
1:add ? to each side	
2:multiply each side by ?	
3:switch sides	
4: $A \cdot B=0 \rightarrow A=0 \text{ or } B=0$	
5:distribute multiplication	
6: $(A+B) \cdot C \rightarrow A \cdot C \pm B \cdot C$	
7: $\downarrow A \cdot (B+C) \rightarrow A \cdot B \pm A \cdot C$	
MAIN	RAD AUTO FUNC 1/1

FIG. 2j

F1▼ Prob Set	F2▼ Prob	F3 <input checked="" type="checkbox"/> a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools
P1: Solve for x						
$x^2 - 3 \cdot x - 4 = 0$						
► factor left-hand side						
$(x-4) \cdot (x+1) = 0$						
► $A \cdot B = 0 \rightarrow A=0 \text{ or } B=0$						
$x-4=0 \text{ or } x+1=0$						
MAIN	RAD AUTO	FUNC		1/1		

FIG. 2k

SELECT TRANSFORMATION	
$x-4=0 \text{ or } x+1=0$	
1:solve linear equation	
2:enter subexpr selection	
TYPE OR USE ← → ↑ ↓ + [ENTER] OR [ESC]	

FIG. 2l



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F1▼ Prob Set	F2▼ Prob	F3 <input checked="" type="checkbox"/> a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools	
P1: Solve for x							
$(x-4) \cdot (x+1)=0$							
► A · B=0 → A=0 or B=0							
x-4=0 or x+1=0							
► solve linear equation							
$x=4$ or $x=-1$							
MAIN	RAD AUTO	FUNC				1/1	

FIG. 2m

F1▼ Prob Set	F2▼ Prob	F3 <input checked="" type="checkbox"/> a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools	
P1: Solve for x							
$x^2 - 3 \cdot x - 4 = 0$							
► quadratic formula							
$x = \frac{-(-3) \pm \sqrt{(-3)^2 - 4 \cdot 1 \cdot -4}}{2 \cdot 1}$ or ►							
MAIN	RAD AUTO	FUNC				1/1	

FIG. 2n

F1▼ Prob Set	F2▼ Prob	F3 <input checked="" type="checkbox"/> a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools	
P1: Solve for x							
► quadratic formula							
$x = \frac{-(-3) \pm \sqrt{(-3)^2 - 4 \cdot 1 \cdot -4}}{2 \cdot 1}$ or ►							
► simplify							
$x=4$ or $x=-1$							
MAIN	RAD AUTO	FUNC				1/1	

FIG. 2o



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F1▼ Prob Set	F2▼ Prob	F3 a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools
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P3: Solve for x

$x^2 - 3 \cdot x = 4$

► add -4 to each side

$x^2 - 3 \cdot x + -4 = 4 + -4$

► simplify

114 → $x^2 - 3 \cdot x - 4 = 0$

116 → Use ← , → , ↓ , ↑ , Shift ← , Shift → , ESC, F3, F4, F7

FIG. 3a

SELECT TRANSFORMATION

$x^2 - 3 \cdot x - 4$

1:factor

2: $A-B \rightarrow A + -B$

3:exit subexpr selection

4:rewrite as ?

TYPE OR USE ← → ↑ ↓ + [ENTER] OR [ESC]

FIG. 3b

F1▼ Prob Set	F2▼ Prob	F3 a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools
-----------------	-------------	-----------	-------------	----	----------	--------------

P3: Solve for x

$x^2 - 3 \cdot x = 4$

► add -4 to each side

$x^2 - 3 \cdot x + -4 = 4 + -4$

► simplify

$x^2 [-3 \cdot x] - 4 = 0$

MAIN RAD AUTO FUNC 3/3

FIG. 3c

SELECT TRANSFORMATION

$-3 \cdot x$

1:arithmetic

2: $(-A) \cdot B \rightarrow -(A \cdot B)$

3:arith, $-$, 0 & 1 ident

4: $A \cdot B \rightarrow B \cdot A$

5:exit subexpr selection

6:rewrite as ?

TYPE OR USE ← → ↑ ↓ + [ENTER] OR [ESC]

FIG. 3d